Name: Date:

Polynomial Factoring practice (version 8)

1. **The quadratic formula says if $ax^2 + bx + c = 0$ then $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. Use the quadratic formula to solve the following equation.**

   $$x^2 + 6x + 21 = 0$$

   Simplify your answer(s) as much as possible.

2. **Express the product of $7 + 9i$ and $5 - 4i$ in standard form ($a + bi$).**

Polynomial Factoring practice (version 8)

3. **Write function $f(x) = x^3 - 6x^2 + 11x - 6$ in factored form. I'll give you a hint: one factor is $(x - 3)$.**

4. **Polynomial p is defined below in factored form.**

$$p(x) \;=\; -(x+3)^2 \cdot (x-1) \cdot (x-5)^2$$

Sketch a graph of polynomial $y = p(x)$.